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Client/Matter: 008312-0290757

REMARKS

Claims 1, 3-6, 8-11 and 13 are pending in this application. By this Amendment, claims 1, 6, and 11 are amended, and claims 2, 7 and 12 are cancelled. Support for the amendments to claims 1, 6 and 11 may be found in at least Figure 7 and the specification on page 17, lines 5-13 and page 18, lines 8 through page 24, line 14. No new matter is added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Applicant acknowledges the indication of allowable subject matter in claims 5, 10 and 13. Applicant respectfully submits that claims 5, 10 and 13 are presently in condition for allowance.

Claims 1, 2, 6, 7, 11 and 12 were rejected under 35 USC §102(e) over U.S. Patent No. 6,111,517 to Atick et al. ("Atick"). This rejection is respectfully traversed.

Atick discloses a continuous video monitoring system using face recognition for regulating access to a computer system. A continuous monitoring system for regulating access to a computer system or other restricted environment is disclosed. The system employs real-time face recognition to initially detect the presence of an authorized individual and to grant the individual access to the computer system. The access to the computer system is revoked when the individual's presence is no longer detected.

Atick does not disclose the subject matter set forth in amended claim 1. Amended claim 1 is directed to a face image recognition apparatus. The face image recognition apparatus includes a memory in which a reference feature amount of a face of a person is registered in correlation with ID information. While Atick discloses the storage of facial representations in a face templates memory, Atick does not disclose that a reference feature amount of a face is registered in correlation with ID information. The claimed apparatus also includes an ID information acquiring section which acquires ID information from a person to be recognized. Atick also does not disclose the claimed ID information acquiring section. Atick provides no disclosure of acquiring ID information from a person. The only information used by Atick is the image obtained by a video camera. The apparatus of claim 1 further includes an image input section which inputs a face image of a person, and a feature amount extracting section which extracts a feature amount of a face based on the face image input by the image input section. The apparatus further includes a recognition section which calculates similarity between the feature amount extracted by the feature amount extracting

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section and a reference feature amount of a face of a person corresponding to the ID information acquired by the ID information acquiring section, and which determines whether the person to be recognized is the person corresponding to the ID information by checking whether the calculated similarity is greater than a predetermined threshold used for identification. The apparatus also includes a feature amount adding section which additionally registers the feature amount extracted by the feature amount extracting section as a reference feature amount of a second face corresponding to the ID information acquired by the ID information acquiring section when the similarity calculated by the recognition section is lower than a predetermined reference value used for additional registration. While Atick may disclose storing a second image in a memory when certain conditions are not satisfied, Atick does not disclose the use of a predetermined reference value. Furthermore, Atick does not disclose the use of a reference value for determining whether or not additional registration should be performed. The claimed predetermined reference value used for additional registration is different from the claimed predetermined threshold used for identification. Atick also fails to disclose, teach or suggest the use of a predetermined reference value that is different from a predetermined threshold used for identification, as claimed. Furthermore, Atick does not perform additional registration processing when the similarity is lower than the reference value for additional registration. Accordingly, Atick does not disclose the claimed feature amount adding section. Applicant respectfully submits that Atick does not anticipate the subject matter of claim 1.

Atick also fails to disclose, teach or suggest the subject matter of amended claim 6. Amended claim 6 is directed to passage control apparatus which recognizes a face image of a passer and controls the passage of the passer. The apparatus of claim 6 includes a memory in which a reference feature amount of a face of a person who is permitted to pass through is registered in correlation with ID information. As discussed above, Atick does not disclose registering a reference feature amount of a face in correlation with ID information. The apparatus further includes an ID information acquiring section which acquires ID information from a passer. Atick fails to disclose this feature. Atick only discloses the use of a camera for real-time detection of a face. The apparatus of claim 6 further includes an image input section which inputs a face image of the passer, and a feature amount extracting section. The feature amount extracting section extracts a feature amount of a face based on the face image of the passer input by the image input section. The apparatus of claim 6 also includes a recognition section that calculates similarity between the feature amount extracted by the

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feature amount extracting section and a reference feature amount of a face of a person corresponding to the ID information acquired by the ID information acquiring section. The recognition section also determines whether or not the passer is the person corresponding to the ID information by checking whether calculated similarity is greater than a predetermined threshold used for identification. Additionally, the apparatus includes a passage control section that controls the passage of the passer based on whether or not the passer is the person corresponding to the ID information. Atick does not disclose the claimed passage control section. Atick only discloses controlling the viewing of a computer terminal based upon viewing the presence of the user. Finally, claim 6 includes a feature amount adding section that additionally registers the feature amount extracted by the feature amount extracting section as a reference feature amount of a second face corresponding to the ID information acquired by the ID information acquiring section, when the similarity calculated by the recognition section is lower than a predetermined reference value used for additional registration. As discussed above, Atick may disclose storing a second image in a memory when certain conditions are not satisfied, but does not disclose the use of a predetermined reference value. Additionally, Atick does not disclose the use of a reference value for determining whether or not additional registration should be performed. The claimed predetermined reference value used for additional registration is different from the claimed predetermined threshold used for identification. Atick also fails to disclose, teach or suggest the use of a predetermined reference value that is different from a predetermined threshold used for identification, as claimed. Accordingly, Atick does not disclose the claimed feature amount adding section. Applicant respectfully submits that Atick does not anticipate the subject matter of claim 6.

Atick fails to disclose the method of amended claim 11. Amended claim 11 is directed to a face image recognition method used in a face image recognition apparatus including a memory in which a reference feature amount of a face of a to-be-recognized person is registered. The method includes inputting a reference feature amount of a face of a person into a memory in correlation with ID information. As discussed above, Atick does not disclose the use of ID information. The method also includes acquiring ID information from the to-be-recognized person. Atick obtains the image of the user, Atick does not acquire ID information. The claimed method also includes inputting a face image of the to-be-recognized person, and extracting a feature amount of a face based on the input face image. The similarity between the extracted feature amount and a reference feature amount of a face

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of a person corresponding to the ID information is calculated. Since Atick does not use ID information, Atick does not perform calculation. A determination is then made as to whether the to-be-recognized person is the person corresponding to the ID information by checking whether calculated similarity is greater than a predetermined threshold used for identification. The extracted feature amount is then additionally registered as a reference feature amount of a second face corresponding to the acquired ID information, when the calculated similarity is lower than a predetermined reference value used for additional registration. As discussed above in claims 1 and 6, Atick does not use a predetermined threshold and a predetermined reference value. As such, Atick does not perform the claimed additional registration. Accordingly, applicant respectfully submits that Atick does not anticipate the method of claim 11.

Claims 2, 7 and 12, which originally depended from claims 1, 6 and 11, respectively are cancelled.

Applicant respectfully submit that claims 1, 6 and 11 are allowable over Atick. Reconsideration and withdrawal of the rejection based upon Atick is respectfully requested.

Claims 3, 4, 8 and 9 were rejected under 35 USC §103 (a) over Atick in view of Published PCT International Application No. WO 00/10116 to Cusack et al. ("Cusack"). This rejection is respectfully traversed.

The Office Action correctly notes that Atick fails to disclose the claimed illumination device of claims 3 and 8 and the claimed first and second illumination sections of claims 4 and 9. The Office Action relies on Cusack for allegedly teaching these deficiencies. Cusack discloses a method and system for eliminating unwanted shadows. Cusack, however, fails to disclose, teach or suggest any of the deficiencies of Atick, identified above in connection with claims 1 and 6. Claims 3 and 4 depend from claim 1. Claims 8 and 9 depend from claim 7. As such, the combination of Atick and Cusack fails to render obvious the subject matter of claims 3, 4, 8 and 9.

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Applicant respectfully submits that the claims define subject matter, which is patentable over the prior art of record. Should any issues require further resolution, the Examiner is requested to telephone applicant's undersigned attorney to discuss and resolve the issues. Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,
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